

# TECHNICAL DATA SHEET

**Product Type** | Epoxy 100% Solids

**Product Name(s)** | Epoxy-MVB



## Overview:

Coatary Technologies Epoxy Moisture Vapor Barrier is a 100% solids system. designed to mitigate moisture-related issues in concrete slabs. It's typically used as a foundational layer in concrete floor coating systems where moisture vapor transmission (MVT) is a concern. By mitigating moisture vapor from migrating through the slab, this can help prevent moisture related issues such as delamination, bubbling, or discoloration in topcoats. Many systems tolerate up to 25 lbs/1,000 sq.ft./24 hrs (per ASTM F1869). Coatary's Epoxy Moisture Vapor Barrier is a high-performance coating with industrial grade chemical resistance, durability, abrasion resistance, adhesion, and flexibility.

## Features & Benefits:

- Meets USDA, FDA, EPA, and SCAQMD Standards
- Extra working time
- Adhesion to Concrete, Wood, Metal, Non-glazed Tiles
- Antibacterial
- High traffic and impact resistance
- Low odor
- Easily workable (flow & leveling)
- Proper film build for enhanced performance & longevity
- Low maintenance
- Waterproofing
- Used for industrial, commercial, & residential applications

## Can be applied as a:

**Concrete Primer:** Apply to properly profiled concrete.

## Applications / Markets:

- Garages
- Residential
- Commercial / Retail
- Industrial / Manufacturing
- Warehouse / Distribution Centers
- Aviation / Transportation
- Healthcare
- Education
- Sports / Recreation Room
- Food & Beverage
- Automotive / Mechanic Repair Shops
- Grow Rooms

## Coatary Systems:

- Flake SLOW System (Interior)
- Flake FAST System (Interior)
- Exterior Flake System
- Metallic System
- Solid Color SLOW System
- Solid Color FAST System
- Quartz SLOW system
- Quartz FAST system

## Finishes and Colors Options:

**Finish:** Gloss

**Color(s):** Clear, Light Grey, Medium Grey, Dark Grey, Beige, Black

## Packaging:

**Part A** | Epoxy-Clear or Epoxy-Colorant – 2 Gallons

**Part B** | Epoxy-MVB – 1 Gallon

**NOTE:** *Part A is packaged in a larger 3.5-gallon pail, allowing sufficient room to mix a full 3-gallon kit without having to purchase a different pail/bucket. Part B is packaged in a 1-gallon jug to help differentiate between part A & B.*

## Storage & Shelf Life:

**Storage Expectation** | Out of direct sunlight and ideally between 60-80°F in a dry space.

**Shelf Life** | 18 months factory sealed and stored at room temperature.

## Surface Preparation:

Grind concrete to a 2 or 3 CSP (3 CSP Preferred). Vacuum and clean all concrete dust & debris. It is imperative to ensure concrete has a proper grind and is completely clean & dry before moving on to application. Contaminates, moisture, materials, or particles may hinder material's adhesion to the substrate. Different projects may require a different concrete surface profile. Adhere to International Concrete Repair Institute current standards.

### Moisture in Concrete:

Concrete slabs should be tested prior to application for elevated moisture vapor emission levels. It is recommended to use ASTM F2170-19 standard for determining relative humidity in concrete slabs using RH probes. For slabs exhibiting elevated moisture levels in excess of 75% RH, Coatary's Moisture Vapor Barrier Epoxy (Fast or Slow) should be substituted as a primer.

### De-Greasing of Contaminated Substrates:

For concrete substrates containing oil, animal fats, or other carbon based contaminants, slabs should be de-greased appropriately using an enzymatic based concrete de-greasing agent. Multiple applications may be required depending on the level of contamination

### Treatment of Joins & Cracks:

Prior to installation of any Coatary products, all joints, cracks and other substrate irregularities must be addressed.

## Mixing & Application Instructions:

- **Kit Mix Ratio** | 2 Gallon Part A + 1 Gallon Part B
- **(IF) Part A is Pigmented** | Best practice to mix Part A to prevent settling at the bottom of the pail and ensure pigments are dispersed evenly. Do this before adding Part B Hardener.
- **Mixing Instructions** | Mixing should be at a two-to-one ratio based on volume. Do not reuse pails when mixing. We provide pails large enough to mix a full kit in our Part A pail (Help save on costs from having to purchase additional pails. Use a paddle mixer on a low rpm and low torque for 2 minutes. Avoid mixing too fast or creating a vortex that would introduce air into the mix.
- **Application Instructions** | No induction time is required prior to use. If micro-media agents are to be incorporated, they are to be added after 1 minute of mixing Part A & Part B. Mix thoroughly but apply quickly. Working time starts at the beginning of mixing. Don't leave product in bucket, pour product on surface immediately after mixing. Keep a wet edge while applying product. Wear spiked shoes when walking on material.

### Ideal Application Tempt & RH %:

**Ideal Product Tempt During Application** | 60-95°F  
**Minimum Substrate Temperature During Application** | 5°F Above Dew Point  
**Recommended Ambient Temperature** | less than 80°F & less than 35% RH

### Average Cure Rates:

<b>Ambient Tempt °F</b>	<b>75° F</b>
<b>Relative Humidity %</b>	<b>25% RH</b>
Working Time	25-35 Mins
Tack Free Time (Scrape Flake)	2 Hrs
Recoat Window	2 - 24 Hrs
Return to Service (Walking)	24 Hrs
Return to Service (Vehicle / Equipment)	7 Days

### Product Coverage:

<b>Substrate (Applied on)</b>	<b>Thickness (Mils)</b>	<b>Coverage Range (sqft / gal)</b>
Prepped Concrete	8 – 10	135 – 100
Epoxy (No Aggregate)	8 – 10	N/A
1/4 Flake Aggregate	8 – 10	N/A

### Product Performance (when cured):

<b>PERFORMANCE</b>	<b>TEST METHOD</b>	<b>TYPICAL VALUES</b>
Moisture Vapor Emission Rate	ASTM F1869	25 lbs.
Abrasion Resistance	ASTM D4060	40 mg loss
Adhesion Strength	ASTM D4541	600 psi, 100% Concrete failure
Adhesion Strength	ASTM D4541	550, vinyl failure
Adhesion Strength	ASTM D4541	600, natural quartz failure
Adhesion Strength	ASTM D4541	600, color quartz failure
Compressive Strength	ASTM D695	14,000 psi
Flame Spread/ Critical Flux	ASTM E648	Class 1
Flame Spread/ Rate of Burning	ASTM D635	Self-extinguishing
Flexibility	ASTM D790	9,000
Gloss, 60°	ASTM D523	85
Hardness (König Hardness)	ASTM D4366	150
Hardness	ASTM D2240 Shore D	75
Impact Resistance	ASTM D2794	160
Indoor Air Quality	CA 01350	Compliant
Microbial Resistance	ASTM G21	Passes, 0 growth
Modulus of Elasticity	ASTM D790	5.0 x 10 <sup>5</sup> psi
Moisture Vapor Emission Rate	ASTM F2170	10-12 lbs.
Moisture Vapor Permeance	ASTM E96	.08
Tensile Elongation at Break	ASTM D2370	5%
Tensile Strength	ASTM D2370	8,000 psi
Water Absorption	ASTM D570	<0.05
Relative Humidity	ASTM F2170	<80%

### Chemical & Stain Resistance:

- **(1) ONE** | Best for chemical resistance: Chemical has no adverse effects on fully cured coating; remove within 24 hours.
- **(2) TWO** | Low potential for stain: Chemical has no adverse effects on fully cured coating if removed within 24 hours.
- **(3) THREE** | High potential for stain or degradation: Chemical must be removed within 24 hours of exposure.
- **NR** | Not recommended

<b>CHEMICAL</b>	<b>RATING</b>
Acetic Acid (Component of Vinegar), 10%	1
Acetic Acid, 30%	2
Acetone	NR
Ammonia, 30%	1
Ammonium Hydroxide, 30%	1
Antifreeze (Coolant)	1
Benzene (Component of Crude Oil)	3
Benzyl Alcohol	3
Betadine, 11%	NR
Boric Acid, 4%	1
Brake Fluid, DOT 3	1
Chromic Acid, 10%	3
Chromic Acid, 30%	3

Citric Acid, 30%	1
Ethanol, 95%	NR
Ethyl Acetate, 99% (Food/Beverage Facility)	NR
Formaldehyde, 37%	3
Premium Gasoline	1
Hydraulic Fluids (Machinery, Automobile, Aviation)	2
Hydrochloric Acid, 10%	3
Hydrochloric Acid, 30%	3
Hydrofluoric Acid, 10%	1
Hydrofluoric Acid, 30%	3
Hydrogen Peroxide, 10%	NR
Hydrogen Peroxide, 50%	NR
Iodine, 2%	3

Isopropyl Alcohol	3
Jet Fuel	1
Lactic Acid, 30% (Dairy Facility)	NR
Lime Juice	2
Magnesium Hydroxide	1
MEK (Methyl Ethyl Ketone)	NR
Methanol	NR
Methylene Chloride	NR
MIBK (Methyl Isobutyl Ketone)	NR
Mineral Oil	1
Motor Oil, SAE 30	1
Mineral Spirits	NR
Mustard, Yellow	2
Nitric Acid, 30%	NR
Oleic Acid	1
Oxalic Acid, 10%	1
Phosphoric Acid, 20%	3
Potassium Hydroxide, 30% (Alkaline Batteries, Soap Manufacturing)	1
Propylene Glycol	1
Silver Nitrate, 20% (Photo Labs)	3

Hydraulic Fluid (Aviation), Skydrol LD-4	2
Sodium Chloride, 20%	1
Sodium Hydroxide (Caustic Soda), 50%	1
Sodium Hypochlorite (Bleach), 10%	2
Sodium Hypochlorite (Bleach), 30%	3
Sodium Persulfate (Bleaching and Oxidizing Agent)	3
Sulfuric Acid, 37% (Battery Acid)	NR
Tannic Acid, 20%	3
Tartaric Acid, 10%	1
Transmission Fluid	1
Urine, Dog or Cat	1
Urea (Nitrogen-Rich Fertilizer)	1
Vinegar, Distilled	1
Water (Hard Water from Well)	1
Whisky	1
Wine, Cabernet Sauvignon	2
Xylene	3

## Maintenance:

The long-term performance, appearance, and life expectancy of wear surface products are dependent on an adequate routine maintenance program designed specifically for the installed wear surface. Resinous floor coating systems are nonporous, causing dirt and contaminants to remain on the surface. Recommended maintenance programs consist of frequent and thorough cleaning utilizing a neutral PH cleaner. The frequency of washing will vary depending on floor usage type, traffic and age.

## Limitations:

- Coating will amber over time. If color stability is important, use our polyaspartic.
- DO NOT apply single coat greater than 1/8 inch. Coatings greater than or equal 1/16 inch must be applied at 65-75 °F.
- DO NOT freeze
- Do not apply product when ambient or room temperature is below 35°F (0°C) or over 90°F(32.2°C) or if the relative ambient humidity is above 85%.
- Do not apply over concrete experiencing ASR (Alkali-Silica Reaction)
- Do not apply over Acrylics or MMA (Methyl Methacrylate) Coatings
- Do not apply over existing coatings / sealers that have not been properly abraded and cleaned.
- Do not apply to new slabs < 28-days old
- Do not apply to concrete < 3500 PSI compression strength
- This product is not recommended for immersion service.
- DEW POINT: Do not apply when dew point is within 5°F of the ambient temperature.

## Precautions:

- If Epoxy will cure exponentially faster when left in a pail, called nuking. Prevent by pouring on the prepped floor immediately after mixing.
- A prime coat may be required if outgassing is suspected or prevalent, if concrete is very porous / in poor condition, or if stem walls are highly absorbent. All concrete repairs must be completed before installing any system.
- DO NOT let material puddle on floor. This may cause a white color, a solid color, or color variations to appear when coating cures. Coating at different thicknesses can also cause similar outcomes.
- For best results, apply when application temperatures and relative humidity are low. Material cures faster as temperature and humidity increase and cures slower as they decrease. If application temperatures exceed those recommended, contact your Technical Representative.
- Apply material when temperature is decreasing—adhere to the Dew Point Calculation Chart available at Coatary.com. DO NOT apply under direct sunlight. DO NOT install under inclement weather conditions.
- Mock-ups and field test areas are strongly recommended to validate performance and appearance related characteristics (including but not limited to color, inherent surface variations, wear, anti-dusting, abrasion resistance, chemical resistance, stain resistance, coefficient of friction, etc.) to ensure system performance as specified for the intended use, and to determine approval of the coating system.
- Coverage & cure rates are for estimating purposes only. Factors including but not limited to type substrate condition, unusual/abnormal substrate conditions, surface preparation, sunlight, humidity, dew point, temperature, and other unforeseen jobsite conditions may affect actual product yields and may lead to fisheyes, blistering, pinholes, wrinkling, or out-gassing of air in the concrete and are not product defects and are the responsibility of the installer.
- Personal protective equipment and safety conditions must be considered before using any product. Review all relevant and current documentation including Safety Data Sheets

**DISCLAIMER:** The information contained in this document is intended for use by Coatary qualified and trained professionals. This is not a legally binding document and does not release the specifier from their responsibility to apply materials correctly under the specific conditions of the construction site and the intended results of the construction process. The most current valid standards for testing and installation, acknowledged rules of technology, as well as Coatary technical guidelines must always be adhered to. The steps given in this document and other mentioned documents are critical to the success of your project. Inhalation of vapor or mist can cause headache, nausea irritation of nose, throat, and lungs. Avoid breathing vapors, it is strongly recommended that respirators are worn. Prolonged or repeated skin contact can cause slight skin irritation. All epoxies have the potential of causing skin irritations or allergic reactions. Be careful not to get on skin, clothes or in eyes. Gloves are strongly recommended. Coatary recommends the use of slip-resistant additives in all coating systems that are subject to heavy foot traffic and especially those within wet or oily environments. It is the end-user's responsibility to provide flooring that meets current safety standards and local coefficient of friction requirements.

### Warranty:

For warranty visit [Coatary.com/resources](https://coatary.com/resources)